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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,323	09/28/2000	Henry A. Lardy	208.3	2363

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EXAMINER	
PESELEV, ELLI	
ART UNIT	**PAPER NUMBER**
1623	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/675,323	LARDY ET AL.	
	Examiner	Art Unit	
	Elli Peselev	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *33-39 and 80-84* is/are pending in the application.

4a) Of the above claim(s) *33-39 and 70-79* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *80-84* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claims 33-39 and 70-79 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on December 8, 2003.

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim70-74 have been renumbered 80-84.

The disclosure is objected to because of the following informalities: The Figures inserted into Examples 2-5 from the provisional application Serial No. 60/157,275 in the amendment to the specification filed February 22, 2007are not legible.

Appropriate correction is required.

The information disclosure statement filed February 22, 2007 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claims 80-84 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 80-81 are indefinite in that the definition of the variables (R12 and R13) and (R16 and R17) is set forth in the alternative.

There is no antecedent basis in claims 80-81 for R18 and R19 together representing =O as set forth in claims 82-84.

Claims 82-83 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification, as originally filed, fails to disclose the species encompassed by claims 82-83. Note that a generic or sub-generic disclosure cannot support a species unless the species is specifically described. Further, there is no support in the specification as originally filed for the variable R5 representing "-OC(O)-O-(CH2)m-(CF2)n-CH3" (claim 82).

Claims 80-81 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for compound 10 as set forth on page 78 of the specification, does not reasonably provide enablement for the steroid compounds as encompassed by the present claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use and make the invention commensurate in scope with these claims.

A conclusion of lack of enablement means, based on the evidence regarding each of the factors below, the specification, at the time the application was filed, would

not have taught one skilled in the art how to make and use the full scope of the claimed invention without undue experimentation.

(A) The nature of the invention.

The claims are directed to the treatment of androgen responsive prostate cancer or androgen responsive benign prostatic hyperplasia or amelioration of one or more symptoms thereof by administration of a large number of steroid derivatives.

(B) The predictability or lack thereof in the art.

Chang et al (Proc. Natl. Acad. Sci. USA Vol. 96, Issue 20, 11173-11177, September 28, 1999), submitted by applicants disclose that among 22 derivatives of dehydroepiandrosterone, only 4 steroids were found that have no androgenic activity and could also block the Adiol-induced AR transactivation in prostate cancer PC-3 cells (see, for example, the Abstract). Therefore, Chang et al show that there is great unpredictability in activities of various derivatives of dehydroepiandrosterone.

(C) The presence or absence of working example.

There is a single working example directed to a compound wherein one or R5 or R6 is a carbonate (compound 10 set forth on page 78 of the specification).

(D) The breadth of the claims.

The claims encompass a very large number of species. Note that the claims encompass a large variation in variables R5, R12, R13, R16, R17, R18, R19 and R25. It is noted that the claims have been limited to compounds wherein R5 or R6 is a carbonate. The specification discloses a single species of a compound wherein R5 or R6 is a carbonate and that is a compound 10 as set forth on page 78 of the

specification. Note that "in applications directed to inventions in arts where the results are unpredictable, the disclosure of a single species usually does not provide an adequate basis to support generic claims" (MPEP 2164.03)

The claims encompass an immense number of species.

(E) The quantity of experimentation needed.

Chang et al (Proc. Natl. Acad. Sci. USA Vol. 96, Issue 20, 11173-11177, September 28, 1999) disclose that among 22 derivatives/metabolites of dehydroepiandrosterone, only 4 steroids were found that have no androgenic activity and could block the Adiol-induced AR transactivation in prostate cancer PC-3 cells (see, for example, the Abstract). Because there is no way to predict a priori which compounds will be active from the specification or chemical structures alone, an extraordinary amount of trial and error experimentation is required to identify the active compounds.

Applicant's arguments filed February 22, 2007 have been fully considered but they are not persuasive.

Applicant contends that of the eight Wands factors for assessing enablement under 112, first paragraph, the Office has not provided support for three of these factors. This argument has not been found persuasive because there is no requirement for providing support for all of the eight Wands factors.

Applicant contends that skill level of ordinary practitioner is high and that the disclosure provides guidance in the form of cell-based assays for selecting compounds from Applicants' genera for the purpose of practicing the claimed invention. Applicant

also contends that the experimentation needed to practice the invention is not undue experimentation and that a considerable amount of experimentation is permissible if it is a routine experimentation. Applicant further contends that Chang et al article does not provide evidence of unpredictability and that the claims have been amended to retain close relationship between compounds covered. These arguments have not been found persuasive. It is noted that the specification discloses cell-based assays measuring androstene receptor (AR) transcriptional activity, the nature of which was routine at the time of Applicants' filing. However, claims 80-81 encompass compounds wherein R5 is a carbonate, R12, R13, R16 and R17 are independently an ester or an ether and R19 is an optionally substituted alkyl, alkenyl or alkynyl. The specification on page 7 states that an alkyl group is a moiety having 1 to about 20 carbon atoms and alkenyl and alkynyl groups have 2 to 20 carbon atoms. In addition, page 8 of the specification describes a large number of possible substituents. The esters, ethers and carbonates are described on pages 12 and 15 of the specification as containing 1-50 carbon atoms and 0 to 10 various heteroatoms. Therefore, claims 80-81 still encompass an enormous amount of compounds having varying structural formulas. Contrary to applicant's assertion, Chang et al disclose that steroids having similar structural formulas have different activities. Due to the unpredictability of the activities of the compounds encompassed by the present claims, the disclosure of a limited number of compounds together with an assay for determining if a compound possess the claimed utility is not commensurate with the full scope of the claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 80-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over the International Patent No. WO 97/37662 or Miyamoto et al (Proc. Naatl. Acad. Sci. USA vol. 95, pp. 11083-11088, September 1998)).

The international Patent discloses a method of treating malignancies with a compound encompassed by the present claims wherein R5 is OH, R6 is H, R12, R13, R16 and R17 are hydrogens, R18 is OH, R19 is hydrogen and R25 is methyl (pages 2-3). Therefore, a person having ordinary skill in the art at the time the claimed invention was made would have been motivated to treat prostate malignancy with the said compound based on the reference's disclosure that said compound induced death of a tumor cell.

Miyamoto et al disclose that Adiol can activate androgen receptor (AR) target genes in human prostate cancer cells. Therefore, a person having ordinary skill in the art at the time the claimed invention was made would have been motivated to use Adiol to treat prostate cancer.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elli Peselev whose telephone number is (571) 272-0659. The examiner can normally be reached on 8.00-4.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia Jiang can be reached on (571) 272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Elli Peselev

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